

WHAT IS CLAIMED IS:

1 1. A telecommunications gateway for interfacing telecommunications traffic, the
2 traffic comprising a plurality of signaling protocols, between a time division multiplexed
3 (TDM) network and a packet switched network, the telecommunications gateway
4 comprising:

5 a time slot interchanger connected to the TDM network for handling traffic from
6 the TDM network;

7 a plurality of digital signal processors (DSPs) connected to the time slot
8 interchanger for handling TDM traffic routed according to allocation of time slots by the
9 time slot interchanger and for converting TDM traffic into packets for transport via the
10 packet switched network and converting packet traffic from the packet switched network
11 for transport via the TDM network; and

12 a microprocessor operating according to software instructions to control time slot
13 allocation by the time slot interchanger and to control operation of the DSPs;

14 wherein the microprocessor downloads a respective software module to each of the
15 plurality of DSPs to enable the DSPs to each handle telecommunications traffic according
16 to one of the plurality of different signaling protocols, all channels of each of the plurality
17 of DSPs handling only telecommunications traffic corresponding to a single one of the
18 plurality of different signaling protocols.

1 2. A telecommunications gateway adapted to interface telecommunications traffic,
2 the traffic comprising a plurality of different signaling protocols, between a time division
3 multiplexed (TDM) network and a packet switched network, the telecommunications
4 gateway comprising:

5 a processor,

6 a plurality of digital signal processors (DSPs), connected between the TDM
7 network and the packet switched network, for converting TDM traffic into packets and for
8 converting packet traffic for transport via the TDM network; and
9 a memory including software instructions adapted to enable the processor to
10 perform operations comprising:
11 allocating TDM traffic to and from each of the plurality of DSPs by assigning
12 time slots; and
13 downloading a respective software module to each of the plurality of DSPs to
14 enable the DSPs to each handle telecommunications traffic according to
15 one of the plurality of different signaling protocols;
16 wherein all channels of each of the plurality of DSPs handles only
17 telecommunications traffic corresponding to a single one of the plurality of
18 different signaling protocols.

1 3. The telecommunications gateway recited in claim 2, wherein the operation of
2 allocating TDM traffic includes reallocating a call to have a time slot selection that routes
3 said call to a different one of the plurality of DSPs in the event that a change in signaling
4 protocol occurs during the call.

1 4. The telecommunications gateway recited in claim 2, wherein the operation of
2 allocating TDM traffic includes reallocating a call to a different one of the plurality of
3 DSPs by re-routing the time slot assigned to that call.

1 5. A method of interfacing telecommunications traffic, the traffic comprising a
2 plurality of different signaling protocols, between a time division multiplexed (TDM)
3 network and a packet switched network, the method comprising:

4 allocating TDM traffic to and from each of a plurality of digital signal processors
5 (DSPs) by assigning time slots; and

6 downloading a respective software module to each of the plurality of DSPs to
7 enable the DSPs to each handle the telecommunications traffic according to one of the
8 plurality of different signaling protocols;

9 wherein all channels of each of the plurality of DSPs handles only
10 telecommunications traffic corresponding to a single one of the plurality of different
11 signaling protocols.

1 6. The method of interfacing recited in claim 5, wherein the act of allocating TDM
2 traffic includes reallocating a call to have a time slot selection which routes said call to a
3 different one of the plurality of DSPs in the event that a change in signaling protocol
4 occurs during the call.

1 7. The method of interfacing recited in claim 5, wherein the act of allocating TDM
2 traffic includes reallocating a call to a different one of the plurality of DSPs by re-routing
3 the time slot assigned to said call.